MLD Bus

ELEVATOR SECURITY DOOR CONTROL BOARD USER GUIDE (ENCODERLESS)

MLD

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MLD Bus – ELEVATOR SECURITY DOOR CONTROL BOARD

MLD Bus Elevator Security Door Control Board is designed for brushed 24VDC motors. It operates by an opened end limit switch 'AL' and a closed end limit switch 'KL'. This board is designed for to adopt different width doors by 'Auto Measurement' feature. When the power is first applied, the door must move in the direction according to the 'CV' Closing Voltage and must stop at the end AL=ON or KL=ON. If the door moves in the opposite direction then the power must be cut off and the motor connections must be interchanged.
There are three buttons P, D, I and two 7 segment displays on the board. All the programmable variables can be adjusted within their limits by these buttons and monitored from the display.
For to enter Programming Mode, 'P' button must be held pressed for 1 second. After entering the first programming step, pressing to 'P' button causes the next programming step is to be selected. The variables can be adjusted within their limits by pressing 'D' and 'I' buttons. Holding pressed of 'D' button performs auto decrement, holding pressed of 'I' button performs auto increment function. Programming steps are designated by letters listed below and displayed alternately with the variable related with this programming step. If none of the buttons is pressed for 10 seconds, all the variables are saved automatically.

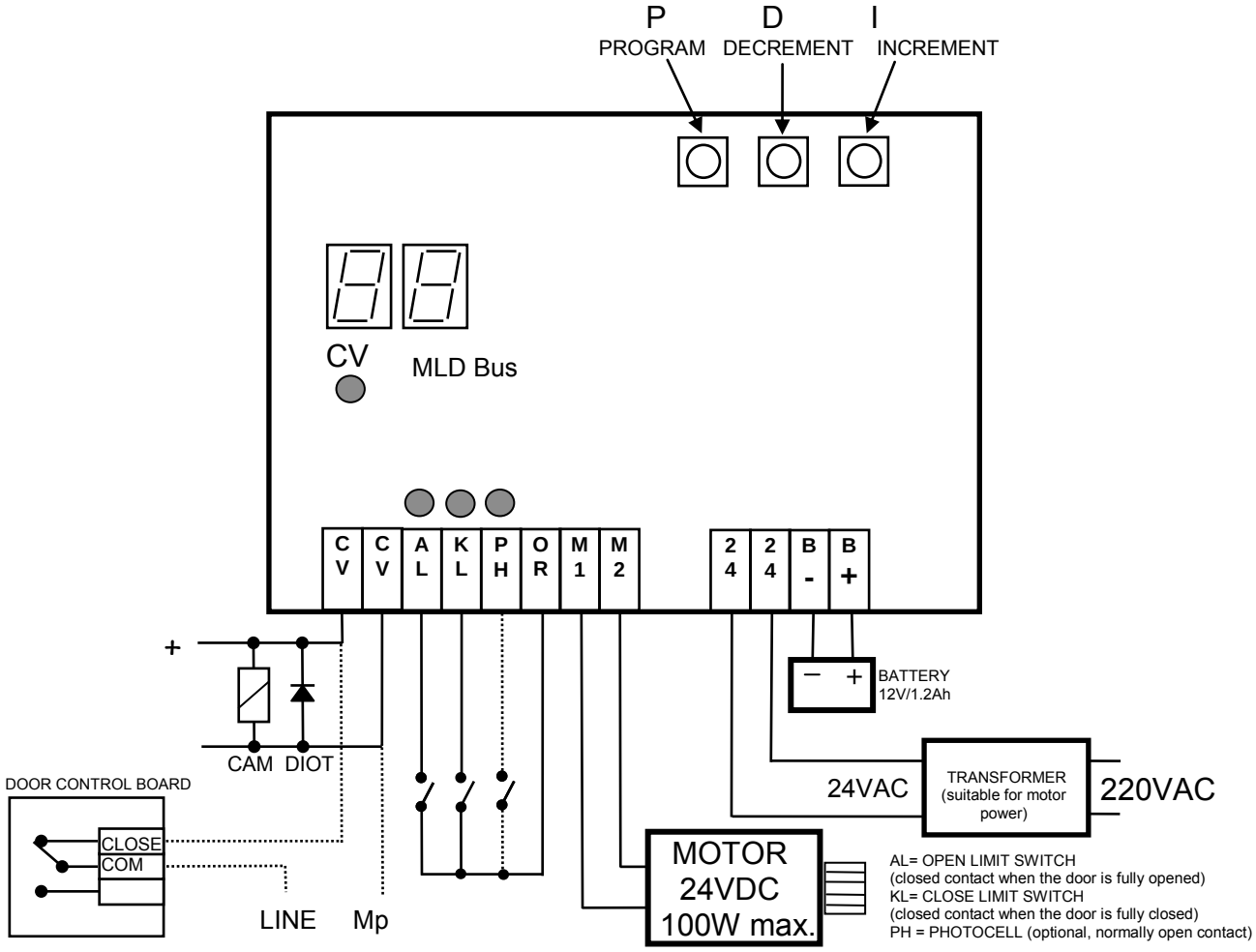
PRG	DESCRIPTION	DISPLAY	RANGE	DEFAULT
P0	CLOSING HIGH SPEED	CH	10 - 85	25
P1	CLOSING LOW SPEED	CL	5 - 20	5
P2	CLOSING ACCELERATION AREA	CA	8 - 35	8
P3	CLOSING DECCELERATION AREA	Cd	3 - 7	3
P4	CLOSING LOW SPEED AREA	CU	1 - 9	2
P5	CLOSING HIGH SPEED FORCE	CF	30 - 99	30
P6	CLOSING LOW SPEED FORCE	Cr	30 - 99	30
P7	CLOSING LIMIT FORCE	Ct	0 - 9 (0=cancel)	0
P8	CLOSED HOLDING FORCE	Cn	0 - 20 (0=cancel)	0
P9	OPENING HIGH SPEED	OH	10 - 85	25
P10	OPENING LOW SPEED	OL	5 - 20	5
P11	OPENING ACCELERATION AREA	OA	8 - 35	8
P12	OPENING DECCELARATION AREA	Od	3 - 7	3
P13	OPENING LOW SPEED AREA	OU	1 - 9	2
P14	OPENED HOLDING FORCE	On	0 - 20 (0=cancel)	0
P15	FUNCTION	FU	n=normal/d=demo	n
P16	JF INPUT POLARITY	Pb	0 - 1	0

AUTO MEAUSEREMENT: For the first time operation only, board must measure the door travel length. For to activate the 'Auto Measurement' operation, 'D' button must be held pressed for 1 second where CV=OFF. During 'Auto Measurement' operation it must be provided that the door mechanism, limit switches and motor function properly.
MANUEL CLOSING: In normal operation mode only, if 'I' button is held pressed, the door closes and stays closed.
FUNCTION: If the value of P15 is selected as 'd', then the door opens and closes continously with 2 seconds intervals, regardless of the 'CV' Closing Voltage. For normal operation the value must be selected as 'n'.
OVERLOAD DETECTION: Force levels in the closing operation are adjusted by the values in P5 and P6 programming parameters. If an overload is detected in the closing operation, door stops and fully opens and tries to close again. If 10 consecutive closing attempts are failed then the door stops for 30s and 'F7' error message is displayed. After this period has elapsed, the door tries reclose once for every 30s. If overload condition persists this procedure is repeated.
Opening force level is a fixed value. If an overload is detected in opening operation, door tries to reopen with 4 seconds intervals. If 10 consequtive attempts are failed, door stops for 30s. After this period has elapsed, the door tries reopen for every 30s. If overload condition persists this procedure is repeated.
CLOSING LIMIT FORCE: If the value of P7 is selected as greater than zero, after the KL switch is on then the motor is energized according to this value for to close the cam and then motor power is switched to Closing Holding Force P8. If P7 is selected as zero, motor power is swicthed directly to Closing Holding Force P8 when KL=ON.
PHOTOCELL: If PH input is activated during the door is closing then door reopens and waits until the PH input is deactived.
OPENING THE DOOR BY HAND : If the door is tried to be opened when it is closed, door will try to reclose for 2s, after this period it opens automatically and stays opened for 10s.

CAUTION

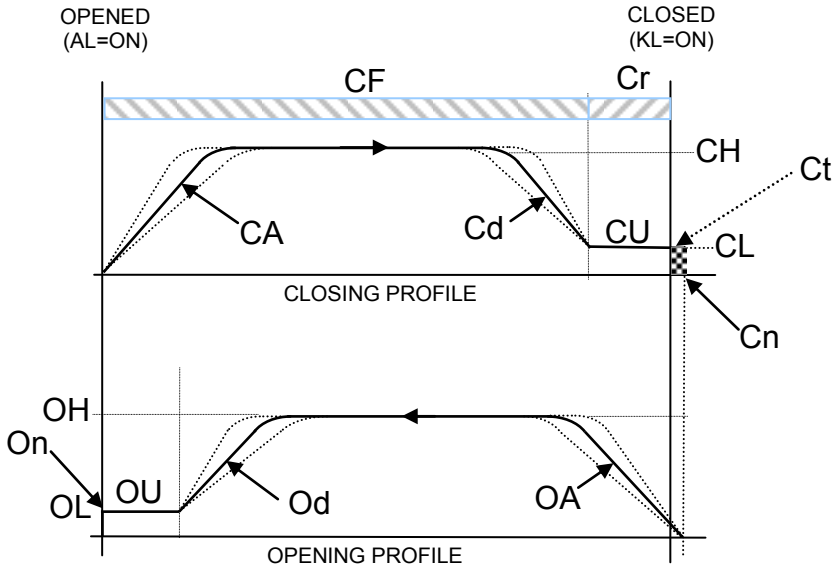
LIGHT CURTAINS MUST BE USED WITH AUTOMATIC ELEVATOR DOORS FOR OBSTACLE DETECTION. IT MAY CAUSE INJURIES IF ANY PERSON INTERFERES WITH THE MOVING PARTS OF THE DOOR. ALL RISKS ARE UNDER USERS' RESPONSIBILITY AND SGM NEVER ACCEPTS ANY LIABILITY.

MLD Bus – ELEVATOR SECURITY DOOR CONTROL BOARD

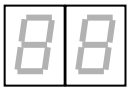


CV= 48 – 240 VAC/VDC

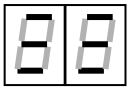
ELECTRICAL CONNECTION SCHEMATIC



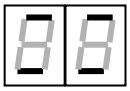
MONITORING DISPLAY;



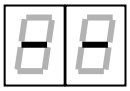
NO MOVEMENT (STAYS CLOSED OR OPENED).



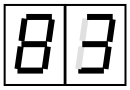
OPENING, CLOSING OR BLOCKED.



NO SUPPLY POWER IS AVAILABLE, OPERATION FROM BATTERY.

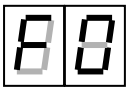


INITIALIZING OR AUTO MEASUREMENT.

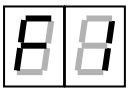


IN THE NORMAL OPERATION MODE IF ‘P’ BUTTON IS HELD PRESSED, WORKING COUNTER (SUCCESFUL CLOSING OPERATION) IS DISPLAYED (x1000).
NOTE: IF THE WORKING COUNTER EXCEEDS 100,000, ‘AA’ IS DISPLAYED.

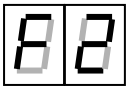
ERROR MESSAGES;



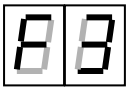
Exceeding 40s movement during Auto Measurement.
Motor stops for 30s and restarts Automatic Measurement.



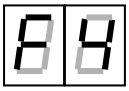
Overload detected during Auto Measurement
Motor stops for 30s and restarts Automatic Measurement.



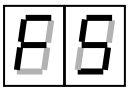
Exceeding 40s movement during first power on.
Motor stops for 30s and restarts.



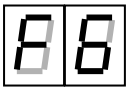
10 consequtive overload detected during first power on.
Motor stops for 30s and tries once for every 30s.



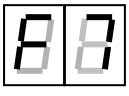
Exceeding 40s movement during normal opening.
Motor stops for 30s and restarts.



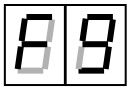
10 consequtive overload detected during normal opening.
Motor stops for 30s and tries once for every 30s.



Exceeding 40s movement during normal closing.
Motor stops for 30s and restarts.



10 consequtive overload detected during normal closing.
Motor stops for 30s and tries once for every 30s.



AL – KL limit switch connection error. Card will be blocked.
External reset is required.